

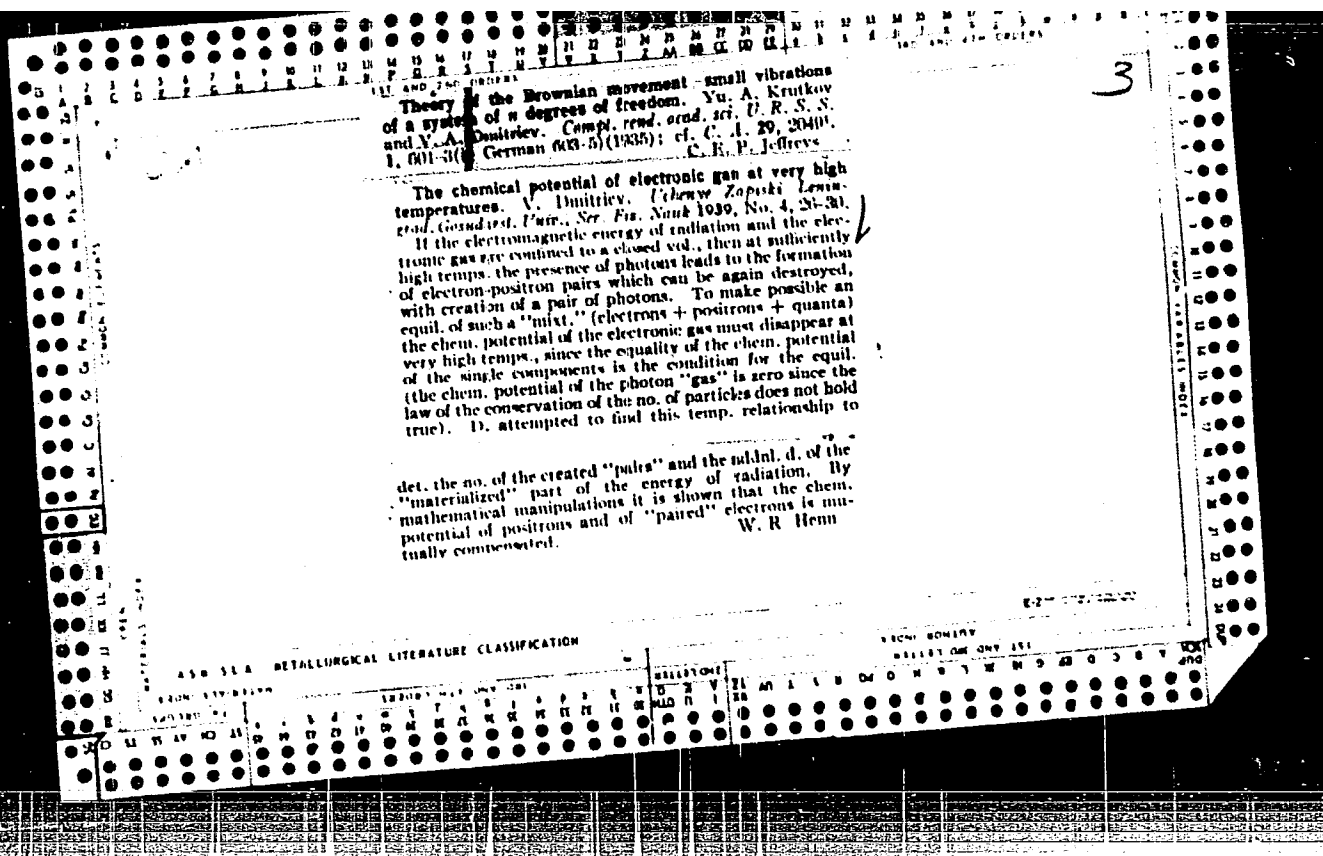
Fig. 1. Ultrasonic flaw detector

*One of the ultrasonic heads in the form
of two identical probes

Cont 3/3

FEDOROVICH, D.P., professor; DMITRIYEV, V.B., redaktor; SACHEVA, A.I.,
tekhnicheskii redaktor

[Acute intestinal obstruction and its therapy] Ostroia kishechnaia
neprokhodimost' i ee lechenie. Moskva, Gos. izd-vo med. lit-ry,
1954. 157 p. [Microfilm] (MLRA 7:10)



24

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

COMMON VARIABLES INDEX

Simplified method for the relative measurements of the dielectric constants and the electric conductivities of electrolytes under the influence of ultrahigh frequencies. V. A. Kuznetsov and L. K. Shamonov. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 8, 471-7 (1968).—The elec. cond. σ and the dielec. const. ϵ for high frequencies were measured for aq. solns. of NaCl and HgSO_4 . The too-high values of ϵ for NaCl at higher concns. are due to the effect of polar mols.

F. H. Rathmann

ASR-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

COMMON ELEMENTS

COMMON VARIABLES INDEX

117 AND 118 SERIES		PROCESSING AND IDENTIFICATION INDEX	
<p><i>Ca</i></p> <p>The method of Drude-Coolidge for the measurement of dielectric constants and of absorption coefficients as applied to strongly absorbing liquids. S. L. Sosinski and V. A. Dmitriev. <i>J. Exptl. Theoret. Phys.</i> (U. S. S. R.) 8, 1384-93(1938); <i>Chem. Zvest.</i> 1939, II, 3021.—It is shown mathematically that the displacement of the resonance curve obtained by the method of Drude-Coolidge depends not only on the dielec. const. of the condenser material but also on its absorption capacity. Formulas are developed by means of which the true and apparent portions of the dielec. const. can be calcld. from the exptl. disp. placement and the width of the resonance curve.</p> <p>M. G. Moore</p>		2	
ASR-51A METALLURGICAL LITERATURE CLASSIFICATION			
SUBJECT INDEX		SUBJECT INDEX	
<p>117 AND 118 SERIES</p> <p>117 AND 118 SERIES</p>		<p>117 AND 118 SERIES</p> <p>117 AND 118 SERIES</p>	

DMITRIEV, V. A.

PA 13T53

USSR/Particles

Nov 1946

Moments of inertia

"A Correction for Inertia in Debye's Dispersion
Formulae," V. A. Dmitriev, S. B. Gurevich, 4 pp

"Zhur Eksp i Teor Fiz" Vol XVI, No 11

Modification of Debye's dispersion formulae to take
into account the inertia of rotation-vibration
motion of dipole particles.

13T53

MOCHALOV, K.N.; ~~DMITRIYEV, V.A.~~

Cracking of methane in a high-frequency torch discharge. Trudy KKHTI
no.13:41-46 '48. (MIRA 12:12)

1. Kazanskiy khimiko-tekhnologicheskij instituta im. S.M. Kirova,
kafedra neorganicheskoy khimii.
(Gas, Natural) (Cracking process)

VALEYEV, A.Sh.; VOZDVIZHENSKIY, G.S.; DMITRIYEV, V.A.

Electrolytic polishing of heterogeneous alloys. Trudy KKHTI
no.15:22-25 '50. [publ. '51] (MIRA 12:12)
(Alloys) (Electrolytic polishing)

DMITRIYEV, V. A.

PA 169T104

USSR/Physics - Crystals, Mono
Magnetic Field
Conductivity, Electric

Nov 50

"Metal Monocrystals in a Magnetic Field," V. A.
Dmitriyev

"Zhur Eksper i Teoret Fiz" Vol XX, No 11,
pp 1019-1021

Averaging of the kinetic equation describing con-
duction electrons, taking into account the magnetic
field, enables one to calculate kinetic coefficients
determining galvanomagnetic phenomenon. Submitted
12 Jan 50.

169T104

DMITRIYEV, V. A.

USSR/Chemistry - Anodes, Corrosion
Chemistry - Corrosion, Measurement of

Apr 49

"Anode Solution of Corroded Metals," G. A. Vozvishenskiy, G. P. Dezider yev, V. A. Dmitriyev, Chem Inst imeni A. Ye. Arbuzov, Kazan Affiliate, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LXV, No 5

Authors previously advanced a theory representing process of anode solution as a process of electro-decrystallization. According to this, surface of a metal which has undergone anode dissolving must have a "corroded texture" - a regular, although invisible, corrosion. Checks this theory experimentally for copper, brass, and duraluminum by measuring luster, considered as a function of surface texture.

Submitted by Acad A. Ye. Arbuzov, 12 Feb 49

PA 39/49T16

DMITRIYEV, V. A.

Mochalov, K. N. and DMITRIYEV, V. A. "Methane cracking in high-frequency flame discharge," "Cracking crude methane," Trudy Kazansk. khim.-tekhnol. in-ta im. Kirova, Issue 13, 1948, p. 41-46 - Bibliog: 11 items

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, no. 3, 1949)

DMITRIEV, V. A.

USSR/Chemistry - Electrochemistry of Metals May 51

"Anodic Dissolution of Texturized Metals," G. S. Vozdivizhenskiy, G. P. Dezider'yev, V. A. Dmitriev, Chem Inst imeni Acad A. Ye. Arbuzov, Kazan' Affiliate, Acad Sci USSR

"Zhur Fiz Khim" Vol xxv, No 5, pp 547-554

Exptl technique showing presence of etching texture in metals subjected to anodic dissolving was developed and influence on this process of texture acquired in the course of cold working shown. General rule defining dependence of anodic dissolution on the crystallographic homogeneity of surface was formulated.

PA 190T8

MOCHALOV, K.N.; DMITRIYEV, V.A.

Cracking of methane-hydrogen mixtures in a high-frequency
torch discharge. Trudy KKHTI no.15:55-61 '50. [publ. '51]
(MIRA 12:12)

(Gas, Natural) (Cracking process)

DMITRIYEV, V.A.

Role of gas formation and grain orientation in the process of
electrolytic metal polishing. Izv.Kazan.fil.AN SSSR Ser.khim.nauk
nauk no.1:81-88 '50. (MLRA 10:5)
(Electrolytic polishing)

DMITRIYEV, V.B.

PA 52/49784

USSR/metals

Electrical Properties
Tests

MAY 49

"Electrode Potentials of Textured Metal in Anode Solution," G. S. Vozdvizhenskiy, V. A. Dmitriyev, Chem Inst Imeni A. Ye. Arbuzov, Kazan Affiliate, Acad Sci USSR, 3 pp

"Dokl Akad Nauk SSSR" Vol LXVI, No 2

Previous papers have shown important part played in process of anode solution by structural alterations of a metal's surface which result from mechanical treatment. Obviously, these structural alterations must also be reflected in magnitude of surface

52/49784

USSR/metals (Contd)

MAY 49

electrode potential. Experimentally proves this statement, material used being copper. Submitted by Acad A. Ye. Arbuzov, 14 Mar 49.

52/49784

VOZDVIZHENSIIY, G.S.; DEZIDER'YEV, G.P.; DMITRIYEV, V.A.

Anodic dissolution of textured metals. Izv.Kazan.fil.AN SSSR
Ser.khim.nauk no.1:63-74 '50. (MLRA 10:5)
(Metals--Finishing) (Electrolytic polishing)

DMITRIYEV, V. A.

AID P - 714

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 7/26

Authors : Dmitriyev, V. A., Eng. and Gavrikov, A. N., Eng.

Title : Automatic valve for elimination of condensate

Periodical : Energetik, 9, 14-15, S 1954

Abstract : The authors briefly describe their own arrangement.
One diagram.

Institution : None

Submitted : No date

DMITRIYEV, V. A.

62. ^V [Investigation of the Mechanism of Electrochemical Polishing of Metals. I.—] Electrolytic Polishing of Copper at Low Current Density. V. A. Dmitriyev (*Zhur. Prikl. Khim.*, 1954, 27, (8), 891-900).—[In Russian]. D. studied the electropolishing of discs of Cu (cold rolled from 1.2 to 0.2 mm. thick and vacuum-annealed at 450° C. for 4 hr.) in H_2PO_4 ($d = 1.57$) at 20-25° C. The Cu disc was placed horizontally in a recess at the bottom of the cell, and the cathode consisted of a hoop of Cu sheet of greater diameter, with a surface area 10× that of the anode. In experiments with cold-rolled Cu, using an external circuit of const. resistance and an initial c.d. of 1-15 amp./dm.², there were very slow increases in anode potential and voltage during the first 10-12 min. after switching on the current (accompanied by slight corrosion of the anode surface), followed by rapid rises after 15 min. Electropolishing began at an anode potential of 0.77 V. The voltage and anode potential continued to rise rapidly during the next 7-10 min., and at values of 1.86 and 1.87 V., resp., O₂ was evolved. With an initial c.d. of 0.8 amp./dm.², analogous results were obtained, O₂ being evolved at 1.73-1.71 V. Cold-rolled and annealed Cu behaved similarly. With an d. of 0.58 amp./dm.²

Experiments were also made at const. voltage. At 0.8 V. there was slight attack on the surface; after 5 min. the "oscillating process" began (periodic changes in current and voltage) and continued for 10-15 min., when it was again possible to hold the voltage const. At 0.7 V. the oscillating process ended 6 min. after switching on the current, and electropolishing began and continued throughout the experiment (60 min.). At 1.0, 1.2, and 1.4 V., the oscillating process was not observed; polishing began after 10 min. At 1.5 V. polishing began after 4 min., evolution of O₂ after 20 min. At 0.8 V. terminal voltage, the anodic potentials of cold-rolled and of annealed Cu remained identical throughout the whole experiment, but at 1.4 V., the potential of cold-rolled Cu was more positive. The structure produced at various voltages was observed microscopically. D. concludes that electropolishing begins only after some min. value of anodic potential is reached and an anodic layer of electrolyte saturated with dissolution products is formed. The c.d. was of importance only in so far as it determined the establishment of these necessary conditions. Electropolishing involves the preferential dissolution of microprojections as a result of the

DMITRIYEV, V.B., kandidat meditsinskikh nauk (Moskva)

Streptomycin in surgical diseases. Khirurgiia no.9:74 S '54.

(MLRA 7:12)

(STREPTOMYCIN, therapeutic use.)

DMITRIYEV, V.B.

LIDOV, I.P.; ISKRZHITSKAYA, A.I.; ~~DMITRIYEV, V.B.~~

Preventive action of biomycin in wound infections [with summary in French, p.63] Antibiotiki 1 no.5:50-54 S-O '56. (MLRA 10:2)

1. Kafedra mikrobiologii (zav. - prof. Z.V.Yermol'yeva) Tsentral'nogo instituta usovershenstvovaniya vrachey i gosspital'naya khirurgicheskaya klinika (zav., prof. V.S.Mazat) II Moskovskogo meditsinskogo instituta.

(ANTIBIOTICS, therapeutic use,
biomycin in wds., prev. of infect. (Rus))

(WOUNDS AND INJURIES, therapy,
biomycin, prev. of infect. (Rus))

DMITRIYEV, V. B.
DMITRIYEV, V.B., dots.

Notes on surgery in the Democratic Republic of Vietnam. Khirurgiia
33 no.7:144-146 J1 '57. (MIRA 10:11)
(SURGERY
in Vietnam)

PA 197T82

DMITRIYEV, V. D.

USSR/Metals - Foundry, Methods

Sep 51

"Statistical Method for Control in Casting Production," V. D. Dmitriyev, Engr, Plant imeni Vladimir Il'ich

"Litey Proiz" No 9, pp 2-6

Demonstrates application of statistical methods for analysis and preventive control of technological processes in foundry practice. Partial control of sep operations of casting production decreased rejection of castings by 33%. Numerous diagrams give graphical representation of materials' qualities and relation among various factors in casting operations.

197T82

DMITRIYEV, V.D. (Leningrad)

Effect of outlets installed near the suction orifice of
the ventilator on its characteristics. Vod.i san.tekh.
no.7:22-24 Je '60. (MIRA 13:7)
(Ventilation)

S/089/60/008/06/03/021
B006/B063 82304

21.6200

AUTHORS: Voronin, I. M., Dmitriyev, V. D., Ibragimov, Sh. Sh.,
Lyashenko, V. S.

TITLE: The Mechanical Properties and the Microstructure of Some
Building Materials After Neutron Bombardment

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 6, pp. 514-518

TEXT: The authors examined the effects of the conditions prevailing in the reactor of the Pervaya atomnaya elektrostantsiya (First Atomic Power Plant) upon the mechanical properties and the microstructure of technically pure molybdenum and steels of the following grades:
1X18H9T (1Kh18N9T), X20H14C2 (Kh20N14S2), 1X15H11M2C2T (1Kh15N11M2S2T), 2X13 (2Kh13), 1X13BMC2 (1Kh13BMS2) and X10H5CT (Kh10Yu5ST). Furthermore, the authors tested eight steels whose chemical composition is given in Table 1. The mechanical properties of austenite steels which were exposed to an integral neutron flux of the order of 10^{20}n/cm^2 and a temperature of 450 - 650°C are listed in Table 2 (limit


Card 1/3

The Mechanical Properties and the
Microstructure of Some Building Materials
After Neutron Bombardment

S/089/60/008/06/03/021
B006/B063 82304

of strength, relative elongation, microhardness) and compared with the values before irradiation. The various steel grades showed different results. The microhardness of the grade 1Kh18N9T, for example, is increased by 65 kg/mm². The increase in hardness of the other grades is lower. The properties depend on the kind of treatment after the chilling (from 1100°C). The microhardness of the above-mentioned steel, for example, is reduced by 52 kg/mm² compared to the value before the irradiation, if it is cold-worked after the chilling. Fig. 1 shows a 325-fold magnification of the microstructure of the austenite steel Kh20N14S2 before and after irradiation. In the following, the authors discuss the effect of the temperature prevailing during the irradiation upon the properties of the specimens. The influence of irradiation usually increases with rising temperature. The microstructure of cold-worked steel irradiated at 500°C is shown in Fig. 2 and compared to Fig. 1b. The dissolution of the austenite structure is distinctly marked. Drawing of the steels (at different temperatures and for different times) leads to a lesser decrease in plasticity due to irradiation. From this

Card 2/3



The Mechanical Properties and the
Microstructure of Some Building Materials
After Neutron Bombardment

S/089/60/008/06/03/021
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the authors conclude that the changes in the properties of austenite steels between 500°C and 650°C brought about by irradiation with an integral flux of $0.9 - 3.4 \cdot 10^{20}$ neutrons/cm² are chiefly related to non-equilibrium states of the material. The mechanical properties of ferrite and ferrite-martensite steels are not strongly affected by neutron bombardment (Table 3). Table 5 gives data on the change in the properties of technically pure molybdenum due to irradiation. This Table shows an increase in the strength and hardness and a considerable decrease in relative elongation. All these changes are greatly dependent on the initial state of the material. Ye. V. Chermashentsev and A. Ya. Ladygin are finally thanked for their assistance in this work. M. D. Abramovich is also mentioned. There are 2 figures, 5 tables and 6 references, 4 of which are Soviet.

SUBMITTED: August 27, 1959

Card 3/3

MISHURNYY, G.G., polkovnik, voyenny letchik pervogo klassa; DMITRIYEV,
V.D., podpolkonik

From frontier to frontier. Vest.Vozd.Fl. no.8:35-40 Ag '61.
(MIRA 14:8)
(Aeronautics, Military--Study and teaching)

L 18523-63 EWP(q)/EWT(m)/BDS AFPTC/ASD Pad JD/HW/WB
 S/0126/63/015/004/0621/0622
 ACCESSION NR: AP3000107

AUTHORS: Ibragimov, Sh. Sh.; Dmitriyev, V. D.

TITLE: Irradiation effect upon formation of the K-state in Nichrome, 14 59

SOURCE: Fizika metallov i metallovedeniye, v. 15, no. 4, 1963, 621-622

TOPIC TAGS: irradiation effect, K-state, Ni-Cr alloy, nickel-chromium alloy

ABSTRACT: The effect of neutron irradiation on the structure of the alloy (21.4% of Cr by weight) was studied. The experiments were conducted at temperatures of 220-250C. The time interval of the irradiation was 1200 hours and its dose was 1.26×10^{20} neutrons per 1 Sq cm. The authors found that irradiation at 220-250C increased the electrical resistivity and hardness of the Ni-Cr samples and that the change in properties depended on the initial structure of the alloy. Increase in the electrical resistivity was determined almost entirely by the formation of the K-state (the presence of Cr-concentration zones), while the change in hardness was caused by the K-state and by the presence of the radiation hardening defects. Continued heating of samples at 250C (without irradiation) produced no noticeable changes in the hardness or electrical resistivity. This proves that the high degree of the K-state formation in an irradiated sample was caused by the influence of the neutron field. Orig. art. has: 1 table.
 Card 1/1/

DMITRIYEV, V.D., inzh. (Leningrad)

Reciprocal effect of pipe bends in a system. Vod. i san.
tekhn. no.9:28-31 '62. (MIRA 15:12)
(Pipe fittings—Testing)

YEKTOV, I.M.; ZARUYEV, V.M.; GUROV, S.A.; REVENKO, I.P.; V rabote
prinimali uchastiye : KALMANOVICH, Yu.R.; GRIGOR'YEV, F.N.;
KOSHCHENKO, A.M.; LITVINENKO, Yu.P.; DMITRIYEV, V.D.;
POLYAKOV, V.V.; PETUSHKOV, Ye.S.; FIRSOV, P.V.

Rolling double bulb-bar shapes with longitudinal cutting in
the finishing mill. Stal' 20 no. 12:1113-1115 D '60.
(MIRA 13:12)

1. Stalinskiy metallurgicheskiy zavod i Donetskii politekhnicheskiy institut.
(Rolling (Metalwork))

ZHIGAREV, Lev Viktorovich; DMITRIYEV, V.D., red.; MALIKOVA, L.A., red.;
TOKER, A.M., tekhn. red.; BARANOVA, N.N., tekhn. red.

[Houses rise into the future] Doma podnimaitsia v budushchee.
Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 190 p.
(MIRA 15:4)

(Construction industry)

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1964, 100-104

TOPIC TAGS: stainless steel, stainless steel pipe, stainless steel rolling arc welded pipe, pipe crack, steel rolling mill, stainless steel structure, steel Kh18N10T, KhPT rolling mill

ABSTRACT: Microscopic analyses and comparisons with Scheffler's diagrams have shown that cracks in the surface near the welded joints of pipes made of Kh18N10T steel are due to its austenite structure, and that the cracks do not appear when the steel structure is 3-5% ferrite, even when the joints are not cleaned before welding. Cold milling of this steel on KhPT machines causes reduction in both pipe diameter and wall thickness. Pipes with diameters of 38, 33, and 25 mm were quenched from 1100C and samples from them were taken for microstructural analysis. Cracks appearing at the seam of the inner surface increased to 0.6 mm when the reduction in diameter reached 45%, and were due to the extreme tension at that spot and the differing properties of the metal at the seam. Though metallographic analysis showed that quenching brought the seam nearer uniformity with the

uc 1/2

ASSOCIATION: Moskovskiy institut stal i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 21Feb64

ENCL: 00

SUB CODE: MM

NO REF SOV: 008

OTHER: 009

Card 2/2

PA 13/49T52

USSR/Medicine - Nervous System,

Physiology

May/Jun 48

Medicine - Reflex, Motor
"Determination of Conditioned Reflexes Based on the Extent of Motor Chromasia Caused by the Irritation of the Olfactory Receptor," V. D. Daltiriyev, Sector of Physiol of Gen Nervous System, Inst of Study of the Brain Imeni V. M. Bekhterev, Leningrad, 91 pp

"Fiziol Zhur SSSR" Vol XLIV, No 3

Reviews history of subject. Describes own experiments on human beings and dogs. Results show that irritation of the olfactory receptor temporarily

13/49T52

USSR/Medicine - Nervous System,
Physiology (Contd)

May/Jun 48

prolongs motor chromasia which disappears in 10-12 minutes. Rheobasis is kept almost unchanged during the actual irritation but chromasia gradually decreases. With dogs, prolonged irritation shortened motor chromasia of the peripheral nerve while brief alterations in chromasia lengthened it. Concludes that subordinate effect on the spinal nervous system but also to the cerebral cortex.

13/49T52

DMITRIYEV, V. D.

Dmitriyev, V. D. "Academician I.P. Pavlov in Karlov Vary," (July-August 1927)
Priroda, 1949, No.2, p.65-70

SO: U-4934, 29 October 1953, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949)

DMITRIYEV, V.D.

Resistance of restored reflex functions. Fiziol. zh. SSSR 39 no.3:
293-299 May-June 1953. (GIML 25:1)

1. Department of Normal Physiology of Leningrad Pediatric Medical
Institute.

DMITRIYEV, V.D.

Significance of the cerebral hemispheres in compensation of flying functions in birds following injuries of the spinal cord. Biul. eksp. biol. i med. 38 no.10:3-6 0 '54. (MLRA 8:1)

1. Iz kafedry fiziologii (zav. prof. D.G.Kvasov) Leningradskogo pediatricheskogo meditsinskogo instituta.

(BRAIN, physiology,

eff. of decerebration on restoration of flying in pigeons with spinal cords lesions)

(SPINAL CORDS, physiology,

eff. of inj. in pigeons, restoration of flying in intact & decerebrated birds)

USSR/Biology - Physiology

FD-2277

Card 1/1 Pub 33-8/18

Author : Dmitriyev, V. D.

Title : ~~Characteristics of the compensation of motor functions in ontogeny~~
Characteristics of the compensation of motor functions in ontogeny

Periodical : Fiziol. zhur. 40, 582-588, Sep-Oct 1954

Abstract : Investigated the course of compensatory processes after injury to the spinal cord and the role of the cerebral cortex in these processes in young mammals, birds, reptiles, and amphibians. Studied changes in reflex reactions to stimulation of certain receptive areas and the effect of narcotics on speed of recovery of motor functions after the following operations: transection of one-half or one-quarter of the cross section of the spinal cord, removal of one or both cerebral hemispheres, and removal of diencephalon and mesencephalon from reptiles and amphibians. Seven references, all USSR (all since 1940).

Institution: Chair of Normal Physiology of the Leningrad Medical Pediatrics Institute

Submitted : December 4, 1953

DMITRIYEV, V.D.

✓ Stability studies on the compensatory reflex mechanism
of narcotic action. V. D. Dmitriyev (Pediat. Med. Inst.,
Leningrad). *Farmakol. i Toksikol.* 19, No. 1, 45-50 (1950). *med* 1
- Motor function compensation was studied in pigeons and
rabbits after severing the spinal cord. Compensatory ac-
tion of conditioned reflexes from the cerebral cortex over
periods of 40-5 days was compared with the decompensa-
tory action of EtOH, Et₂O, CHCl₃, chloral hydrate, ure-
than, medinal, luminal, hedonal, morphine, and amytal
Na. In general the effect was comparable to that of cere-
bral lobotomy; morphine was especially active and fast, its
effect lasting over 5 hrs. Urethan was fast, but effective
for less than 2 hrs.; EtOH was quite active, Et₂O less so,
CHCl₃ about twice as active as Et₂O; chloral hydrate had a
strong effect, lasting several hrs.; medinal, hedonal, and
amytal Na had only moderate effects; the action of luminal
was weak. Julian E. Smith

DMITRIYEV, V.D.

Significance of the cerebral hemispheres in the compensation of motor functions following bilateral hemisection of the spinal cord. Biul.eksp.biol.med. 42 no.7:3-7 J1'56. (MLRA 9:9)

1. Iz kafedry normal'noy fiziologii (zav. - prof. D.G.Kvasov) Leningradskogo pediatricheskogo meditsinskogo instituta. Predstavlena deystvitel'nyy chlenom AMN SSSR L.A.Orbeli.

(SPINAL CORD, physiology

eff. of bilateral hemisection on motor funct. in pigeons, role of brain in compensatory funct. (Rus))

(BRAIN, physiology,

compensatory funct. in motor disord. after bilateral spinal hemisection in pigeons (Rus))

DMITRIYEV, V.D.
DMITRIYEV, V.D. (Leningrad)

Morphological and physiological analysis of sensory and motor compensatory mechanisms following injuries of the spinal cord [with summary in English]. Arkh.pat. 19 no.9:50-57 '57.

(MIRA 10:12)

1. Iz otdela fiziologii tsentral'noy nervnoy sistemy byvshego Instituta mozga imeni V.M.Bekhtereva.

(SPINAL CORD, physiology,

eff. of section on sensory & motor funct., compensatory mechanisms in pigeons & frogs(Rus))

USSR / Human and Animal Physiology. The Nervous System. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41680.

Author : Dmitriyev, V. D.

* Inst : ~~Not Given.~~

Title : The Significance of the Cross Action of the Cerebral Hemispheres in the Compensation of the Motor Function of the Lower Extremities in Birds.

Orig Pub: Fiziol. Zh. SSSR, 1957, 43, No 6, 577-581.

Abstract: Defensive-motor conditioned reflexes in pigeons, following hemisection of the spinal cord at the level C₁₀₋₁₁ were elaborated more slowly than in nonoperated animals. The formation of CR was more rapid on the injured side than in the healthy one. Removal of the hemisphere on the side opposite the hemisection, causes greater disturbances of the compensating motor functions, than homolateral

Card 1/2

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* Iz *OTDELA TSENTRAL'NOY NERVENY SISTEMY* INSTITUTA MIZGA IMENI
V. M. BEKHTEREVA, Leningrad.

DMITRIYEV, V.D.; MAKLAKOV, A.I.

Determining the combustion properties of Kazan gas by the
"constant pressure bomb" method. Uch. zap. Kaz. un. 117 no.9:
167-169 '57. (MIRA 13:1)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina.
Kafedra molekulyarnykh i teplovykh yavleniy.
(Combustion) (Gases--Analysis)

DMITRIYEV, V.D. (Leningrad)

Possible compensation of animal and vegetative functions following deep wounds of the nervous centers in various animals. Pat.fiziol. i eksp.terap. 3 no.1:74 Ja-F '59. (MIRA 12:2)

1. Iz otdela fiziologii Tsentral'noy nervnoy sistemy (zav. - prof. E.A. Asratyan) Instituta mozga imeni V.M. Bekhtereva.
(NERVOUS SYSTEM--WOUNDS AND INJURIES)

DMITRIYEV, V.D.

Development of compensatory and decompensatory locomotor mechanisms
Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 12 no.1:33-42 Ja '59.
(MIRA 12:2)

(ANIMAL LOCOMOTION) (NUTRITION)

DMITRIYEV, V.D.; IBRAGIMOV, Sh.Sh.; NIKOL'SHIN, S.G.

Effect of neutron bombardment on uranium crystallization.
Dokl. AN SSSR 165 no.5:1065-1068 D '65.

(MIRA 19:1)

1. Submitted August 12, 1965.

L 3889-66 EWT(1)/EWT(m)/EPF(c)/EWP(t)/EWP(b) IJP(c) JD/WW/JG/GG
 ACCESSION NR: AP5017488 UR/0368/65/002/006/0481/0488
 536.3 78
 69
 8
 AUTHORS: Dmitriyev, V. D.; Kholopov, G. K. 55, 44 55, 44
 TITLE: Spectral emissivity of tungsten in the infrared region of the spectrum 21, 44, 55
 SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 6, 1965, 481-488
 TOPIC TAGS: tungsten, emissivity, ir radiation, ir spectrum 27, 55
 ABSTRACT: In view of the lack of reliable data on the emissivity of tungsten at wavelengths of 2.7 nm, the authors measured the emissivity of a tungsten ribbon from 1 to 5.1 nm at temperatures 1244--2441K. A comparison method was used, where the comparison source was an absolutely black body at the melting point of gold (1336K), consisting of a graphite cavity heated in an electric oven. The tungsten radiation source was in the form of a vacuum lamp with sapphire window, the filament of which was in the form of a ribbon 1.5 mm wide, 2.5 mm long, and 0.03 mm thick. The measurements were made by alternately applying the radiation from the measured and standard sources to a

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ACCESSION NR: AP5017488

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monochromator, the output from which was measured with a thermocouple. The temperature of the tungsten ribbon was determined by measuring the ratio of the brightness at the given temperature to the brightness at the characteristic wavelength λ_x (x-point). It was found that $\lambda_x = 1.24 \mu$ and the emissivity is 0.333 at the x-point. It is concluded from the results that the emissivity of tungsten does not obey the Hagen-Rubens relation in the infrared region. The authors thank M. M. Gurevich for reviewing the manuscripts, A. K. Pavlyukov for preparing the tungsten emitter and help with the measurements, and A. I. Astaf'yev for help with the measurements. Orig. art. has: 2 figures, 8 formulas, and 4 tables.

ASSOCIATION: None

SUBMITTED: 10Nov64

ENCL: 00

SUB CODE: OP

NR REF SOV: 012

CTHER: 012

Beh
Card 2/2

DMITRIYEV, V.D., otv.red.; PROKOP'YEV, I.P., red.; SIDOROV, P.A.,
red.; DENISOV, P.V., red.; PERLOV, P.V., tekhn.red.

[Economic and cultural development of the Chuvash A.S.S.R.]
Razvitie ekonomiki i kul'tury Chuvashskoi ASSR. Cheboksary,
Chuvashskoe gos.isd-vo, 1960. 327 p.

(MIRA 14:5)

1. Cheboksary. Chuvashskiy nauchno-issledovatel'skiy insti-
tut yazyka, literatury, istorii i ekonomiki.
(Chuvashia--Economic conditions) (Chuvashia--Culture)

DMITRIYEV, V.D.; KHOLOPOV, G.K.

Integral emissivity of tungsten in the 1200°-2800°K temperature interval. Zhur. prikl. spekt. 3 no.1:72-75 J1 '65. (MIRA 18:9)

IBRAGIMOV, Sh.Sh.; DMITRIYEV, V.D.

Effect of irradiation on the formation of the K-state in
nichrome. Fiz.met.i metalloved. 15 no.4:621-622 Ap '63.
(MIRA 16:6)

(Nickel-chromium alloys) (Metals at low temperatures)
(Metals, Effect of radiation on)

DMITIRYEV, V.D., kand.tekhn.nauk

Mutual effect of air duct off'takes. Sudostroenie 29 no.4:19-23 Ap '63.
(MIRA 16:4)

(Marine pipe fitting)

DMITRIYEV, V.D.; SHEVAKIN, Yu.F.; FOMENKO, Yu.Ye.

Characteristics of the rolling of electrically welded stainless
steelpipe on KhPt mills. Izv. vys. ucheb. zav.; chern. met. 7
no.11:100-104 '64. (MIRA 17:12)

1. Moskovskiy institut stali i splavov.

DMITRIYEV, V.D.; SHEVAKIN, Yu.F.

Mechanical properties of electrically welded tubes made of
Kh18Ni9T steel. Izv. vys. ucheb. zav.; Chern. met. 8 no.1:
88-90 '65 (MIRA 18:1)

1. Moskovskiy institut stali i splavov.

L 13867-66 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b)/EWA(h) JD
ACC NR: AP6002426 SOURCE CODE: UR/0020/65/165/005/1065/1068

AUTHOR: Dmitriyev, V. D.; Ibragimov, Sh. Sh.; Nikol'shin, S. G. 38
37

ORG: none

TITLE: Effect of neutron radiation on recrystallization of uranium 19.44.55
16 27

SOURCE: AN SSSR. Doklady, v. 165, no. 5, 1965, 1065-1068

TOPIC TAGS: neutron irradiation, uranium, metal recrystallization, metal heat treatment

ABSTRACT: The recrystallization process was studied in natural uranium as a function of neutron irradiation. The specimens were 99.82% pure with a diameter of 12 mm and a length of 70 mm. The neutron intensity was $2 \cdot 10^{13}$ neutrons per cm^2 . The irradiated uranium rods were cut into sectors 4-5 mm thick. Recrystallization in these specimens was studied by microstructural and x-ray analysis and macrohardness measurements. Photomicrographs are given showing the structure of uranium specimens subjected to 50% deformation as a function of annealing temperature and holding time. Curves are given showing the hardness of deformed specimens as a function of

Card 1/2

UDC: 539.04
2

L 13867-66

ACC NR: AP6002426

annealing temperature before and after irradiation. Before irradiation, the specimens show a reduction in hardness at a temperature of about 500°. Irradiated uranium shows a slight reduction in hardness (by 20-30 kg/mm²) in the 450-500° region, and a considerable reduction (by 80-90 kg/mm²) at temperatures above 600°. The first reduction in hardness is apparently caused by annealing of radiation hardening defects, while the second is due to recrystallization of the deformed specimens. It is found that irradiation by neutrons raises the temperature and retards the process of recrystallization in deformed uranium. The effects of fission products and redistribution of defects during irradiation are considered. In conclusion the authors thank S. T. Konobeyevskiy for discussing the results of this work. Orig. art. has: 4 figures, 1 table.

SUB CODE: 11/
18/

SUBM DATE: 12Aug64/

ORIG REF: 003/

OTH REF: 001

Card 2/2 (P.C.)

L 47572-66

ACC NR: AP6032163

SOURCE CODE: UR/0410/66/000/004/0050/0054

AUTHOR: Dmitriyev, V. D.; (Kazan'); Yermolayev, Yu. P. (Kazan'); Kholopov, V. V. (Kazan')

22
B

ORG: none

TITLE: The problem of increasing the accuracy of RC distributed parameter networks

SOURCE: Avtometriya, no. 4, 1966, 50-54

TOPIC TAGS: RC circuit, distributed parameter, *CIRCUIT DESIGN*

ABSTRACT: The problem of manufacturing distributed film RC networks with reproducible transfer characteristics is analyzed. The networks are made by vacuum deposition through masks of alternate rectangular layers of conductive, dielectric, and resistive materials. The problem of reproducibility arises when there is a spread in the mask apertures and their alignment. Fig. 1 illustrates some of these reproduction problems. Fig. 1a shows an uneven layer of resistive material (white) on the capacitance (hatched region). The RC product remains the same because whenever the resistance per unit length increases there is a corresponding decrease in per-unit capacitance; lateral mask misalignment is therefore not harmful. Fig. 1b shows the lower capacitance plate layer (hatched region L units long), a resistive layer (white region), film contacts attached to the resistance (hatched end areas), and the equivalent circuit for this ideal configuration. Fig. 1c shows that when the

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UDC: 621.382.416

L 47572-66

ACC NR: AP6032163

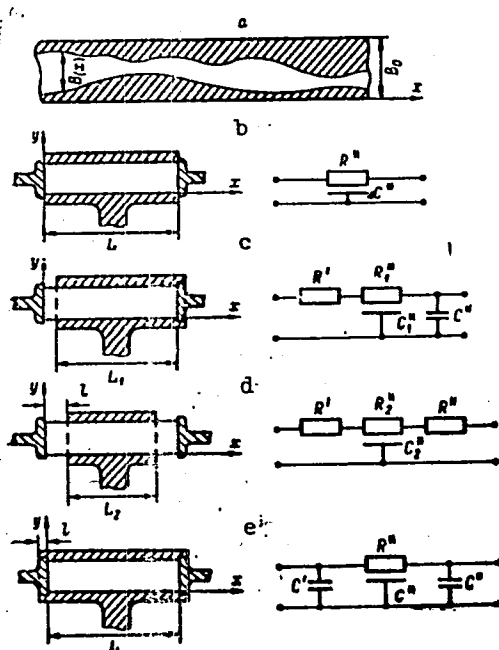


Fig. 1. Distributed RC networks with equivalent circuits.

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L 47572-66

ACC NR: AP6032163

8

resistive layer and contact layers are misaligned, R' and C'' appear, respectively. To combat this problem, either the resistive layer is made to overlap the capacitive layer, (Fig. 1d), in which case the RC circuit acquires two bulk resistors (R' and R'') but the RC product remains as designed, or, preferably, the contact layer is made to overlap the resistive and lower capacitance plate layers, thus producing capacitances C' and C'' , (Fig. 1e). Figs. 2 and 3 show the results of tests of RC

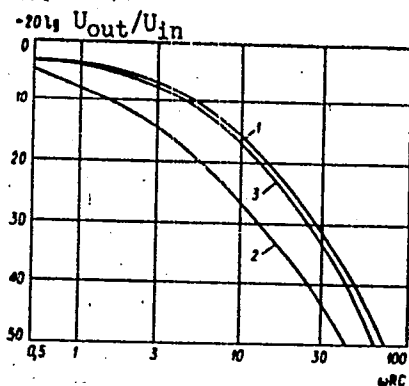


Fig. 2. Transfer characteristics for network of Fig. 1b.

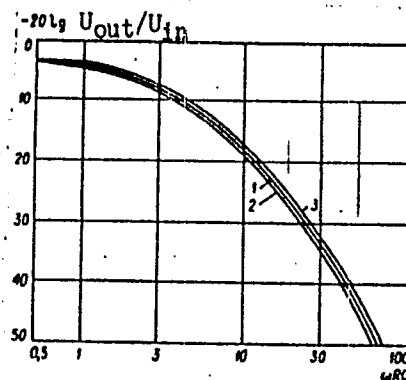


Fig. 3. Transfer characteristics for network of Fig. 1d.

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L 47572-66

ACC NR: AP6032163

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distributed networks ($L = 10$ mm) made according to the methods shown in Figs. 1b and 1e, respectively. Curve 1 in both figures corresponds to exact mask alignment; curves 2 and 3 correspond to maximum mask shift of 1 mm in the left and right directions. Orig. art. has: 2 formulas and 4 figures. [BD]

SUB CODE: 09/ SUBM DATE: 20Jan66/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5093

ne
Card 4/4

DMITRIYEV, Vladimir Dmitriyevich; SHULEYKIN, P.A., red.; RAKITIN,
I.T., tekhn. red.

[Grain is the wealth of our country; a book about those who are working today on the production of new, valuable and high-yielding wheat varieties] Zenro - bogatstvo nashei strany; kniga o tekh, kto zaniat v nashi dni sozdaniem novykh, naibolee tsennykh i urozhainykh sortov pshenitsy. Moskva, Izd-vo "Znanie," 1962. 46 p. (Narodnyi universitet kul'tury: Sel'skokhoziaistvennyi fakul'tet, no.6) (MIRA 15:8)
(Wheat--Breeding)

DMITRIYEV, V.D.; KHOLOPOV, G.X.

Spectral emittance of tungsten in the infrared spectral region.
Zhur. prikl. spekt. 2 no.6:481-488 Je '65. (MIRA 18:7)

DMITRIYEV, V.F.

135-10-9/19

AUTHORS: Dmitriyev, V.F., Engineer, and Biryukova, L.V., Engineer

TITLE: Arc Welding of Magnesium Alloys with a Metallic Electrode (Dugovaya svarka magniyevykh splavov metallicheskim elektrodom)

PERIODICAL: Svarochnoye Proizvodstvo, 1957, No 10, pp 29-31 (USSR)

ABSTRACT: Detailed directions are given for all operations concerning arc welding of magnesium alloys by metallic electrodes: cleaning of surfaces, angles of beveling (when the thickness of a sheet exceeds 6 mm), underlaying steel or asbestos, preheating, electrode coating and its preparation and application, selection of components for electrode coating, drying and storing, diameters of electrodes, welding current, speed of welding, position of electrode, cooling, cleaning of finished work. The recommended technology gives sound welded joints. It was found that hammering after welding increases the strength of the joints. Experimental welding of boxes, cans and similar items as well as welding defect spots on sheet metal gave satisfactory results. There are 3 figures and 3 charts.

ASSOCIATION: VAMI.

AVAILABLE: Library of Congress
Card 1/1

DMITRIYEV, V. I.

✓ The role of phosphorus- and sulfur-containing amino acids in the proteins of the human brain. V. I. Dmitriyev (Med. Inst., Blagoveshchensk). *Biokhimiya* 20, 527-32 (1955).— The material studied consisted of 14 brains of normal humans who died of accidents or phys. traumas. Seven of the brains were studied individually each as a whole, the other 7 were used in the study of the grey and white matter dissected out and combined. The brain proteins were preppt. by heating them in distd. H₂O and subsequent extn. with alc. and ether. Protein hydrolysis was accomplished by autoclaving the material in 20% HCl. For the detn. S was converted into H₂SO₄ and detd. as BaSO₄. Methionine was detd. by the method of Sullivan and McCarthy (C.A. 36, 2281), cystine by the Block and Bolling modification (*The Amino Acid Composition of Proteins and Food Products*, 1949) of the Folin method; P was detd. by pptn. as ammonium phosphomolybdate. Details of each analytical procedure used are presented. The av. content of S in the proteins of the grey matter was 0.913, of the white matter 0.006%; S of the whole brain varied from 0.83 to 1.64, av. 0.95%. Av. cystine content of proteins in the white matter was 1.81, of the grey matter 2.10%; varying from 1.02 to 2.75%.

Av. methionine content of brain proteins of man was 2.90% in white and in grey matter; it varied from 1.95 to 2.90, with an av. of 2.44% in the whole brain. The cystine content of the proteins of the human brain is higher than in the proteins of the tissues of other organs. Av. content of P in brain proteins was 0.96% in the grey matter, 0.92% in the white matter, and varied from 0.79 to 0.91, with an av. of 0.87% in the whole brain. The P content of the proteins of the human brain is likewise higher than in the proteins of other body tissues. The S-contg. amino acids are basic structural components of the proteins of the human brain. The high content of S, cystine, and of methionine in the proteins of the human brain indicates that in the metabolic processes of the brain and in the oxidation-reduction reactions occurring in coordination with other processes, the S-contg. amino acids play an important role, and that methionine is a basic component of the brain protein structure. The presence in methionine of a mobile Me group makes this amino acid a basic component of such an important biol. process as transmethylation. B. S. Levine

DMITRIYEV, V.F.; KUPERSHMIDT, Ya.A.

Selecting optimum parameters of filters at the output of pickups.
Izn.tekh. no.5:37-40 My '62. (MIRA 15:6)
(Electric filters)

MAKEYEV, O.V., prof., otv. red.; IMITRIYEV, V.E., prof., red.; YEGOROV, A.D., prof., red.; YEFIMOV, M.V., dots., red.; OZHIGOV, Ye.P., kand. khim. nauk, red.; BOGDANOV, G.G., red. izd-va; BARER, S.N., tekhn. red.

[Microelements in soils, waters and organisms of Eastern Siberia and the Far East and their role in the life of plants, animals and man] Mikroelementy v pochvakh, vodakh i organizmakh Vostochnoi Sibiri i Dal'nego Vostoka i ikh rol' v zhizni rastenii, zhivotnykh i cheloveka; trudy. Ulan-Ude, Buriatskii kompleksnyi nauchno-issl. in-t, 1961. 275 p. (MIRA 16:1)

1. Konferentsiya po mikroelementam v pochvakh, rastitel'nykh i zhivotnykh organizmakh Vostochnoy Sibiri i Dal'nego Vostoka. Ist, Ulan-Ude, 1960. (Siberia, Eastern--Trace elements)

DMITRIYEV, V.F., inzh. (Tashkent)

Experiments in earthwork with suction dredges. Gidr. i mel.
15 no.7:38-42 JI '63. (MIRA 16:8)

YEFIMOV, S.G., inzh.; DMITRIYEV, V.F., inzh.

Economic efficiency of the PK-3 and PKS-3 cutter-loaders. Sbor.
KuzNETSI no.10:348-353 '64. (MIRA 18:9)

A L 11802-66 EWT(1)/EWA(h)

ACC NR: AP6002522

SOURCE CODE: UR/0286/65/000/023/0029/0030

INVENTOR: Dmitriyev, V F.

ORG: none

TITLE: ²Pulse-code information receiver. Class 21, No. 176623 [announced by the Central Scientific Research Institute of Complex Automation (Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 29-30

TOPIC TAGS: pulse coding, ~~pulse-code information~~, pulse code ^{information} receiver, ~~computer compo-~~

ABSTRACT: A pulse-code information receiver (see figure) is introduced. To simplify

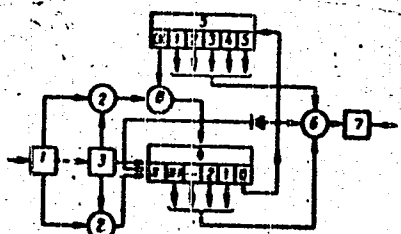


Fig. 1. Pulse-code information receiver

1 - Threshold unit; 2 - coincidence circuits;
3 - clock-pulse generator; 4 - register; 5 - channel
divider; 6 - resolution unit; 7 - code control unit;
8 - AND element.

the entire system, an AND element is provided; its output is coupled to the register

Card 1/2

UDC: 621.398.654.04

L 11802-66

ACC NR: AP6002522

input, and its input is connected to the register output through the channel divider.
Orig. art. has: 1 figure. O

[JR]

SUB CODE: 09/ SUBM DATE: 10Feb64/ ATD PRESS: 4179

HW
Card 2/2

S/137/63/000/002/022/034
A006/A101

AUTHOR: Dmitriyev, V. G.

TITLE: Oxygen-flux cutting of stainless steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1963, 48, abstract 2E265
(In collection: "Vnedreniye peredovoy tekhnol. svarki", no. 1, Irkutsk, 1960, 53 - 57)

TEXT: During the assimilation of O₂-flux cutting of stainless steels at the Angarsk Mechanical Repair plant, the following deficiencies of the YPXC -3 (URKhS-3) machine, designed by Vniiavtogen, were revealed: 1) Unreliable operation of the injector device; 2) caking of the Fe-powder in the cutter channels. In this connection a new injector device was designed at the Plant, as well as a cutter with external flux feed on the basis of the PP -53 (RR-53) cutter. Pure Fe-powder of 0.14 - 0.5 mm grain size was used as a flux. Flux feed was performed not with O₂, but with N₂ or CO₂. This excludes the possibility of inflammation or caking of the flux in the cutter channels. At the present the plant has assimilated O₂-flux cutting of stainless 1X18H9T (1Kh18N9T) steel, up to 210 mm thick, on the described machine.
[Abstracter's note: Complete translation] V. Chernyak
Card 1/1

DMITRIYEV, V.G.

Rod holder for measurement of water discharge with the rotator.

Meteor. i gidrol. no.9:41-42 S '57.

(MLRA 10:9)

(Flowmeters)

AVRUKH, M.L.; MAGIDSON, L.M.; DMITRIYEV, V.G.

Principles of designing a small contactless automatic telephone
exchange using magnetic elements. Probl.pered.inform. no.9:150-159
'61. (MIRA 14:7)

(Telephone, Automatic)

AKHMANOV, S.A.; DMITRIYEV, V.G.

Parametric amplification of traveling waves with low-frequency
pumping. Vest. Mosk. un. Ser. 3: Fiz., astron. 18 no.4:32-41
Jl-Ag '63. (MIRA 16:8)

1. Kafedra radiotekhniki Moskovskogo universiteta.
(Parametric amplifiers) (Traveling-wave tubes)

ACCESSION NR: AP3001778

S/0188/63/000/003/0085/0093

AUTHOR: Dmitriyev, V. G.

TITLE: Theory of wave propagation in nonlinear dispersing lines

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, *Vol #18*
no. 3, 1963, 85-93

TOPIC TAGS: wave interaction, cubic reactance nonlinearity, non-linear optics, nonlinear dispersive medium, dispersive medium

ABSTRACT: The process of generating a second harmonic in a nonlinear line with a cubic reactance nonlinearity has been theoretically investigated. It is found that the average reactance parameters of such a line depend on the amplitude of the wave propagated. Some features of the interaction process of waves in a dispersive line with a cubical nonlinearity without losses are the following: 1) the phase trajectories, surrounding the cophase stationary state, are considerably distorted, whereas the phase trajectories around the antiphase stationary state become more linear; 2) the amplitude distribution of the component of the second harmonic along the axis of system is

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ACCESSION NR: AP3001778

determined mainly by the input phase ψ_0 ; 3) for nonlinear media with a normal dispersion and cubical nonlinearity, the effectiveness of increasing the frequency or amplification can be considerably increased because of detuning compensation by so called "nonlinear" detuning. Accounting for cubical nonlinearity has a definite value for problems of nonlinear optics, where the cubical terms of induction field expansion in power series of the potential can reach a considerable magnitude. The results obtained were compared with results for a line with quadratic reactance nonlinearity. Orig. art. has: 4 figures and 27 formulas.

ASSOCIATION: none

SUBMITTED: 10Oct62

DATE ACQ: 09Jul63

ENCL: 00

SUB CODE: PH

NO REF SOV: 002

OTHER: 002

Card 2/2

L 18725-63

BDS

ACCESSION NR: AP3004377

S/0109/63/008/008/1428/1439

47

AUTHOR: Akhmanov, S. A.; Dmitriyev, V. G.

TITLE: On the saturation theory of a traveling-wave amplifier with a nonlinear reactance

SOURCE: Radiotekhnika i elektronika, v. 8, no. 8, 1963, 1428-1439

TOPIC TAGS: saturation-condition analysis, traveling-wave amplifier, nonlinear reactance, propagating-wave amplitude, attenuation, line loss, synchronization, phase velocity

ABSTRACT: Analysis of saturation conditions of a traveling-wave amplifier with nonlinear reactance operating in a given pumping field is presented. Two basic problems are examined: 1) the operation of the amplifier under nonlinear conditions without attenuation and 2) the effect of attenuation on processes occurring in the amplifier. It was found that the mechanism of saturation of such an amplifier has a great deal in common with the well known mechanism of TWT saturation. In both cases the approach to saturation conditions, which is determined by deviations from the condition of synchronism, has an oscillatory

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L 18725-63

ACCESSION NR: AP3004377

character. Consequently, saturation can be related either to the dependence of line losses on propagating wave amplitudes or to the break in synchronism of wave-phase velocities at large amplitudes. A phase-plane method and numerical integration are utilized to analyze nonlinear differential equations describing a change in the amplitude and phase characteristics of propagating waves. The power of a building-up wave at near-saturation conditions fluctuates, and the oscillation amplitude increases with an increase in the modulation factor of a reactive parameter and a decrease in the attenuation of the line. A brief discussion of the operation of the device under linear conditions is included. Results indicate that fluctuations of parameters such as propagation velocity and attenuation compensate each other. "The authors express their thanks to R. V. Khokhlov for valuable discussion and to S. D. Gvozdover for his interest in the project." Orig. art. has: 5 figures and 25 formulas.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Faculty of Physics, Moscow State University)

SUBMITTED: 06Jul62

DATE REC: 20Aug63

ENCL: 00

SUB CODE: GE

NO REF SOV: 007

OTHER: 009

Card 2/2

14752

S/057/63/033/001/C11/017
B125/B186

9.2572

AUTHORS: Akhmanov, S. A., Gvozdozer, S. D., Gorshkov, A. S., and
Dmitriyev, V. G.

TITLE: The nonlinear effects and the parametric regeneration in the
interaction of waves in wave guide systems with long electron
currents

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 1, 1963, 90 - 99

TEXT: Experiments were conducted in the centimeter and decimeter wave
range of this wave guide system with freely drifting electron currents
and an electron beam of a slow-down system. The effective parametric
regeneration was studied over a wide range of signal-to-pump frequency
ratios of traveling waves. Thereby, a great number of combination fre-
quencies were observed, considerably influencing the non-linear and para-
metric processes. The accelerating potential of the drifting section has
an important effect on the character of the space charge waves in the free-
ly drifting electron current. The parametric regeneration is possible in
a very wide frequency band and shows no qualitative difference for the
Card 1/2

The nonlinear effects ...

S/057/63/033/001/011/017
B125/B186

cases $f_{\text{pump}} > f_{\text{sign}}$ and $f_{\text{pump}} < f_{\text{sign}}$. Nonlinear effects such as parametric amplification for $f_{\text{pump}} > f_{\text{sign}}$ and $f_{\text{pump}} < f_{\text{sign}}$, suppression, cross modulation, clipping, etc., are possible in wave guide systems with long electron currents. A spectrum of Raman frequencies, particularly the sum and difference of f_{pump} and f_{sign} , occurs in spiral systems. The interaction of these two frequencies leads in the general case to the spectrum $f_{\text{mn}} = mf_{\text{pump}} + nf_{\text{sign}}$ of the Raman frequencies. Some of the nonlinear effects mentioned above follow from the dispersion properties of the system and the theory of interactions in nonlinear wave systems by taking into account numerous Raman frequencies. There are 9 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Fizicheskiy fakul'tet
(Moscow State University, Division of Physics)

SUBMITTED: December 3, 1961

Card 2/2

ACCESSION NR: AP4038640

S/0109/64/009/005/0814/0821

AUTHOR: Akhmanov, S. A.; Dmitriyev, V. G.; Modenov, V. P.

TITLE: Theory of frequency multiplication in nonlinear dispersive lines

SOURCE: Radiotekhnika i elektronika, v. 9, no. 5, 1964, 814-821

TOPIC TAGS: frequency multiplication, dispersive line, radio frequency multiplication, nonlinear optics

ABSTRACT: A theoretical investigation of the propagation of electromagnetic (radio and optical) waves in a nonlinear-reactance single-dimensional medium is reported; phase velocities of the fundamental wave and its second and third harmonics are regarded as nearly equal. The results may easily be extended over the case of a two-dimensional medium. The differential equations involved were numerically integrated on a "Strela" digital computer; the effects of the modulation factor, dispersion, and attenuation on the generation of harmonics

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ACCESSION NR: AP4038640

were explored. It is found that effective frequency doubling and tripling by a non-linear dispersive line is practically possible; the tripling conversion factor may go as high as 65%. In nonlinear optics, the use of reflections is recommended to keep down the conversion-equipment size. Orig. art. has: 4 figures and 17 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 19Mar63

DATE ACQ: 05Jun64

ENCL: 00

SUB CODE: EC, DP

NO REF SOV: 005

OTHER: 002

Card 2/2

DNICHAYEV, V.G.; MODENOV, V.P.

Theory of wave propagation in nonlinear dispersive lines. Vest.
Mosk. un. Ser. 3: Fiz., astron. 19 no.3:91-93 My-Je '64.

(KIE: 17:11)

1. Kafedra radiotekhniki Moskovskogo universiteta.

Radio Radio Engineering

L 41592-65 EWT(1)/BEG(k)-2 IJP(e)
ACCESSION NR: AP5010096

UR/01.09/65/010/004/0649/0657

AUTHOR: Akhmanov, S. A.; Daitriyev, V. G.; Modenov, V. P.

TITLE: Theory of frequency multiplication in a resonator cavity filled with a non-linear medium

SOURCE: Radiotekhnika i elektronika, v. 10, no. 4, 1965, 649-657

TOPIC TAGS: nonlinear optics, frequency multiplication, second harmonic, harmonic generation, Fabry Perot interferometer, nonlinear medium, dispersive medium

ABSTRACT: A theoretical analysis is conducted of second harmonic generation in a one-dimensional Fabry-Perot interferometer filled with nonlinear dispersive material. Since the duration of the intense power pulses used in nonlinear optics is of the order of the time required to establish steady-state operation, both stationary and transient regimes are considered. The method used is based on the solution of a succession of boundary-value problems where the boundary conditions are taken according to the results of the previous boundary-value problem and the properties of the reflecting surfaces. The study of the time dependence of the amplitudes of the propagated waves is thus replaced by the study of their spatial distribution along the axis of the cavity. It is shown that in a nonlinear cavity resonator the efficiency of second harmonic generation is determined primarily by 1) the modula-
Card 1/3

L 42592-65

ACCESSION NR: AP5010096

tion coefficient of the nonlinear medium, 2) the Q-factor, which depends on the number of reflections and the coupling between the cavity and the load, 3) losses in the medium, and 4) the amount of deviation in the direction of propagation from that of the matching indices. It is pointed out that use of a cavity resonator is justified when the coefficient of modulation and the losses are small (i.e., about 10^{-8} — 10^{-5} and 1—3% per cm of length, respectively). When these values are larger the same effects can be obtained without a cavity resonator. In some cases, when the losses are of the order of 10% per cm the use of a resonator will actually lower the efficiency of second harmonic generation. When wave propagation is not in the direction of matching indices the steady-state mode of operation is reached through a transient regime of the oscillatory type. In such a case the angular distribution of the second harmonic intensity output is narrower than that which is attained from a traveling-wave frequency multiplier. It is noted that the results obtained can be extended to the case of a finite cavity resonator. Orig. art. has: 24 formulas and 6 figures. [CS]

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Physics Faculty, Moscow State University)

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ACCESSION NR: AF5010096

SUBMITTED: 24Jan64

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OTHER: 001

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me
Card 3/3

L 10240-66 EWT(1)/EWA(h)

ACC NR: AP6000560

SOURCE CODE: UR/0109/65/010/012/2157/2166

AUTHOR: Akhmanov, S. A.; Dmitriyev, V. G.; Modenov, V. P.; Fadeyev, V. V.

ORG: none

TITLE: Theory of parametric oscillation in a resonator filled with nonlinear medium

SOURCE: Radiotekhnika i elektronika, v. 10, no. 12, 1965, 2157-2166

TOPIC TAGS: cavity resonator, parametric oscillator

ABSTRACT: The process of parametric excitation of a single-dimensional Fabry-Perot resonator filled with nonmagnetic nonlinear dispersing medium is considered; the wavelength is a small fraction of the resonator linear dimensions. The excitation, transient, and stationary conditions are analyzed as well as the generation of subharmonics in a semi-infinite nonlinear medium. These resonator variants are considered: (a) the pumping wave passes the resonator freely while the subharmonic wave undergoes multiple reflections; (b) the reflected subharmonic wave passes outside the nonlinear medium; (c) a standing pumping wave is set up in the resonator. It is found that the oscillation threshold, the transient time, and the subharmonic oscillator efficiency essentially depend on the following factors: (a) modulation factor of the medium parameters; (b) resonator Q-factor (loss in the medium and radiation from the mirrors); (c) difference in phase velocities of the interacting waves; (d) form of boundary conditions imposed on the mirrors. The resonator with a

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UDC: 621.373.93:534.414.014.6

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ACC NR: AP6000560

standing pumping wave is better than other variants thanks to its shorter transient time. All variants have practically the same efficiency. The stationary-oscillation amplitude decreases with the increasing coupling factor which enhances self-excitation and cuts down transient time. When the pumping-wave phase velocity differs from that of the subharmonic, the self-excitation becomes difficult and oscillatory. The latter characteristic persists in the standing-pumping-wave resonator even under exact synchronous conditions. "The authors wish to thank R. V. Khokhlov for a useful discussion of the results." Orig. art. has: 6 figures and 28 formulas. [03]

SUB CODE: 09 / SUBM DATE: 18Jul64 / ORIG REF: 007 / OTH REF: 001 / ATD PRESS: 4/61

Card 2/2

L 35812-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI IJP(c) JD/HM

ACC NR: AP6015250

(A)

SOURCE CODE: UR/0125/66/000/005/0068/0069

AUTHOR: Yuzvenko, Yul. A., Shimanovskiy, V. P., Mel'nik, A. V., Dmitriyev, V. G.

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B

ORG: [Yuzvenko, Shimanovskiy, Mel'nik] Institute of Electric Welding im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR); [Dmitriyev] Combine for the Extraction and Processing of the Ores of the Kursk Magnetic Anomaly (Kombinat po dobychye i pererabotke rud Kurskoymagnitnoy anomalii)

TITLE: Prolonging the service life of the teeth of excavator buckets by building them up with powdered-metal electrode wire

SOURCE: Avtomaticheskaya svarka, no 5, 1966, pp 68-69

TOPIC TAGS: powder metal, wire, manganese steel, excavating machinery, welding electrode, metal surfacing/PP-U25Kh17T-O welding electrode, G13L steel, EKG-4 excavating machinery

ABSTRACT: The service life of bucket teeth of G13L steel ranges from 3 to 20 days depending on operating conditions and the hardness of the rock being excavated. These teeth weigh ~120 kg each, and are mounted on the buckets of EKG-4 excavators. In this connection, the authors experimented with various patterns of the beading of

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UDC: 621.791.92:621.879.4

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ACC NR: AP6015250

the worn tips of these teeth (Fig. 1), on using PP-U25Kh17T-0 powdered-metal electrode

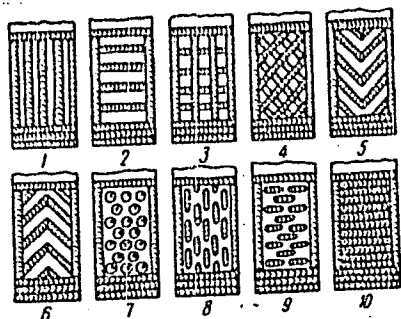


Fig. 1. Alignment of beads during build-up of teeth:

1-10 - ordinal numbers of bead-alignment patterns

wire 3 mm thick as well as a welding current of 240-260 a and a welding voltage of 24-26 v. The width and depth of the beads in every case were 12-15 and 10-12 mm, respectively. Four of the five teeth on each experimental bucket were thus built-up, the fifth having been left alone for purposes of comparison. Following operating trials (excavation operations) the wear on the teeth was compared. Findings: in all cases, except the bead alignment pattern 3 (Fig. 1) this build-up method is superior to the previously employed solid, continuous build-up method. The best results were

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ACC NR: AP6015250

produced by beading patterns 7, 8 and 9: the service life of the teeth was nearly tripled. Fig. 2 shows the teeth demounted from a bucket following their operating tests: the center tooth had not been built-up. Tests of built-up excavator-bucket

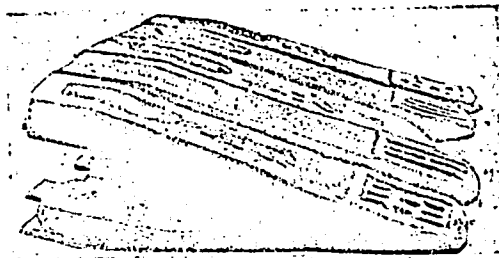


Fig. 2. Teeth after tests. Center tooth not built-up (G13L steel)

teeth used to excavate extremely hard quartzite rocks at the Yuzhnoy Southern Mining and Concentrating Combine have confirmed the effectiveness of this method. The simplicity of this method, based on unshielded welding with a powdered-metal electrode, should be particularly emphasized, since it does not require the use of shielding gases and fluxes. All this warrants recommending the widespread introduction of this method at enterprises of the ore-mining and building materials industries. Orig. art. has: 2 figures, 1 table.

SUB CODE: 11, 13/ SUBM DATE: 13Dec65/

Card 3/3

ACC NR: AP7001337

SOURCE CODE: UR/0386/66/004/011/0441/0445

AUTHOR: Gol'din, Yu. A.; Dmitriyev, V. G.; Tarasov, V. K.; Shkunov, N. V.

ORG: none

TITLE: Observation of generation at the sum frequency in electro-optic nonlinear crystals

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 11, 1966, 441-445

TOPIC TAGS: laser r and d, ruby laser, neodymium glass, emission spectrum, electro-optic effect

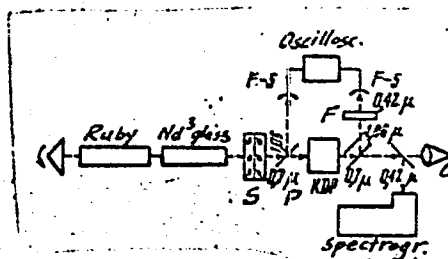
ABSTRACT: The authors present the results of experiments aimed at observing the generation of the sum frequency of two Q-switched lasers, ruby (0.6943μ) and Nd^{3+} glass (1.058μ), which falls in the blue-violet band (0.4192μ). The frequencies were added in a nonlinear electro-optic KDP crystal cut in the synchronism direction. The main difficulty of synchronizing the laser spikes within ~ 5 nsec was circumvented by using a cavity with confocal geometry (Fig. 1). The parameters of the ruby and neodymium-glass lasers and of the output radiation were: laser pump power 800 Joule each, pulse duration 40, 40, and 10 nsec, output energy 0.1, 0.4, and 10^{-3} Joule, power density 2.5, 10, and 0.1 mw/cm^2 . The radiation transformation coefficient at the same frequency was thus $\sim 1\%$. The obtained emission spectrum at the sum frequency is presented and is compared with that of a mercury lamp. The feasibility of real-

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izing a similar experiment with generation at the difference frequency is also discussed briefly. The authors thank R. Kh. Pecherskiy, P. Zudkov, and Ye. I. Sokol for help in the experiment and R. V. Khokhlov for interest in the work. Orig. art. has: 2 figures.

Fig. 1. Block diagram of experimental setup. S - stack of two plane-parallel plates, F - SZS-21 or FS-6 filter, C - calorimeter, P - plane-parallel plate.



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ORIG REF: 001/

OTH REF: 017 /

ATD PRESS: 5108

Card 2/2

KOSMOVICH, L.S.; DMITRIYEV, V.I.

Pistonless electric hydraulic crane. Mashinostroitel'
no.9:29 S '62.

(MIRA 15:9)

(Electric cranes)

DMITRIYEV, V. I.

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(MIRA 15:10)

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no.10:86 0 '62. (MIRA 15:10)

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(Railroads--Finance)

DMITRIYEV, V.I., dotsent.

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(MLRA 9:11)

(Railroads--Management)